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ABSTRACT

Recognizing that the classroom of the 1990s will be more participatory and interactive, this study compared career ladder and preservice teachers who have stronger interactive qualities with other educators on 15 affective variables of the Canfield Learning Styles Inventory. The study sought to determine which affective variables differed significantly between the educators with stronger interactive qualities and educators with weaker interactive qualities, and which affective variables contributed significantly to the discriminant analysis. The sample was composed of 93 public school teachers and 71 teacher education students. Results of the study indicated relevant differences between career ladder/preservice teachers with interactive qualities and other educators. Interactive teachers were judged to have strong interactive qualities by their scores on peer conditions and people interest. It is suggested that when interactive teachers use cooperative instructional strategies they are fulfilling a personal need and reinforcing their intrinsic motivational core. Cooperative or collaborative learning techniques are a natural outgrowth for realizing their teaching potential.

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COMPARISON OF CAREER LADDER/PRESERVICE TEACHERS WITH STRONG
INTERACTIVE QUALITIES TO OTHER EDUCATORS ON THE AFFECTIVE
VARIABLES OF THE CANFIELD LEARNING STYLES INVENTORY

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COMPARISON OF CAREER LADDER/PRESERVICE TEACHERS WITH STRONG
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What all the great teachers appear to have in common is love of their subject, an obvious satisfaction in arousing this love in their students, and an ability to convince them that what they are being taught is deadly serious.

Epstein (1981, p. xii)

Effective or masterful teaching continues to be a topic worthy of thoughtful research and investigation. Self reflection of our own experiences in the educational arena may evoke a variety of personal biases and ultimately the images focus on the criteria that constitutes the effective teaching model. Educational flashbacks may include the awe-inspiring scholar lecturing, or that of the warm, approachable individual who establishes the enviable positive "feeling tone" during a class discussion. The strategies of delivery are recognizably diversified, and yet there is a common element that these scenes illustrate--that of interaction. Interactive instructors are noted primarily for their profound sense of impact, their strong sense of presence and direction, not solely for their detailed planning, or knowledge of the content, technological innovations, or extensive use of materials or resources.

Joseph Epstein's Masters: Portraits of Great Teachers (1981) presented a particularly insightful collection of masterful teachers. These portraits of twentieth century college teachers collectively reported an extraordinary level of personal and intellectual impact upon their respective students. Epstein (1981) summarized that each of the masters cited in the collection had "a

great deal to offer their student; they were also highly skillful at getting it across." Theoretically, the classroom is viewed as the center for intellectual development. In reality, the classroom is a highly emotional arena that is dependent upon the interactive group process, which is the life process.

There is an increasing body of pedagogical research that supports the identification of specific personal characteristics of the effective classroom teacher (Brophy & Evertson, 1976; Schalock, 1979; Cohen, 1984; Flanders, 1970; Good, Biddle, & Brophy, 1975). Handley (1986) reported six characteristics that are supported by teacher effectiveness research: enthusiasm, efficacy, high self-concept, flexibility, sergancy, and high expectations. Other contemporary empirical research on effective teachers has identified professional/technical characteristics which present a consistent picture of specific factors that contribute to the model of an effective teacher. Evertson, Hawley, and Zlotnik (1984) reviewed teacher preparation programs and identified five core teaching skills (CTS) that were associated with promoting student achievement: maximizing academic learning time of students, managing the classroom, utilizing effective teaching strategies, communicating high expectations for student performance, and rewarding student performance.

With the recognition that the classroom of the 90's will be more dependent upon a participatory/interactive nature, the investigators of this study analyzed the affective variables of

inservice teachers on the affective variables of the Canfield Learning Styles Inventory (1980). Two factors on the inventory, people and peers, obviously support the learning preferences of a teacher with interactive preferences for learning and instructing. The people preference area of interest is related to activities that involve others, working with or around other people. Grouping patterns and the cooperative learning model are natural outgrowths of this preference. A preference for peers is supportive of a preference for teamwork, and maintaining good relations with others. Learning teams that promote student motivation, encourage group processes and positive social and academic interaction will best meet this learning preference.

The Problem

The problem in the study was to compare career ladder and preservice teachers with stronger interactive qualities of people and peer traits with other educators on 15 affective variables of the Canfield Learning Styles Inventory. The specific research questions in this study were:

1. Which affective variables differed significantly between the educators with stronger interactive qualities and educators with weaker interactive qualities?
2. Which affective variables contributed significantly to the discriminant analysis?

Research Procedure

Data for the predictor variables that affect learning and contribute to the satisfactory and effective adjustment to the

teaching-learning situation were collected from career ladder subjects during an inservice staff development training session and from preservice teacher educator subjects during pedagogy classes. The preservice teacher education group had met the necessary standards for admission to teacher education. The Canfield Learning Styles Inventory (Form A) was used to group the subjects and to make the comparisons.

Subjects

The sample was composed of 93 public school teachers in a district in Mississippi who participated in a staff development workshop. The preservice group consisted of 71 teacher education subjects enrolled in professional sequence courses at Mississippi State University. All participants completed the learning style inventory. There were 27 male and 66 female subjects in the inservice group. Their teaching experience varied from 30 years to beginning teachers. The preservice group consisted of 14 males and 57 females. The preservice group had completed at least 45 of general education courses and had met other entry requirements for admission into teacher education.

Instrument

Canfield's Learning Styles Inventory (1980) was the testing instrument. The instrument was constructed to help individuals become cognizant of their learning preferences in regard to conditions of learning, the content, the mode of learning, and the students' expectations of success (Claxton, Adams, Williams, 1982). Canfield surmised that learning was determined by classroom

climate, a group of interpersonal and motivational factors (conditions), interest in the subject area (content), sensory input (mode), and the student's prediction of success or failure (expectation).

The inventory consists of 30 items and requires the subject to rank order 4 options in each item of the LSI, a forced choice format. Scores from a low of 6 (indicative of a very high preference) and a high of 26 (indicating a very low preference). Scoring extended across 4 major categories: conditions, content, mode, and expectations. Each category contains 4 to 8 descriptive scales. The research in this study focused on learning preferences and not on a prediction of success or failure; consequently the Expectancy category and its inclusive scales were not used.

The Froehlich method was initially employed by Canfield to determine scale reliability (Garrett, 1966). Garrett explained this method as a simple Pearson Correlational statistical technique that involved an inherent correction factor to accommodate the attenuation of the sample the inventory was administered to 369 community college students. The Learning Styles Manual, Form A, reported scale reliabilities which ranged from .59 to .92 (Canfield, 1980). Correlations of the first half of the inventory compared to the second half were taken to determine split half reliabilities. The correlational coefficients ranged from .96 to .99 (Canfield, 1980).

Methods of Data Analysis

The subjects were grouped according to their combined scores

on peer conditions and people interest. Group I consisted of subjects on or below the combined mean score and was the group judged to have stronger interactive qualities. Group II consisted of the other educators and had a combined score above the mean. Means and standard deviations of the variables were determined for each group. Analysis of variance was used to determine if there were significant differences between the groups on each of the variables. Discriminant analysis was used to determine the set of variables differentiating between the teacher's learning styles.

Results of the Study

The results of the analysis of variance shows 6 of the 15 variables were significantly different. The means, standard deviations, and F-ratios are shown in Table I.

Table I
Comparison of Educators with Stronger Interactive Qualities
to Other Educators on Learning Style Variables

Learning Style Variable	Interactive Qualities		Others		F Ratio
	x	SD	x	SD	
Conditions					
Organization	11.42	3.40	11.33	2.71	.03
Goal Setting	15.47	2.90	17.96	3.12	27.84*
Competition	17.66	2.76	18.09	2.52	1.07
Instructor	14.57	3.76	12.23	3.91	15.24*
Detail	12.97	3.42	12.88	3.26	.03
Independence	17.37	3.52	18.73	3.76	5.69*
Authority	15.06	3.86	16.17	2.93	4.36*
Content					
Numeric	14.14	4.91	18.26	4.05	34.75*
Qualitative	14.03	4.43	14.31	4.49	.15
Inanimate	16.03	4.29	17.04	3.32	2.58
Mode					
Listening	14.97	4.38	13.72	4.23	3.47
Reading	16.83	5.00	19.24	7.64	5.59*
Iconic	13.85	3.37	14.43	3.63	1.08
Direct Experience	14.02	4.71	13.23	4.83	1.12
Expectancy Score	20.88	10.44	23.01	12.21	1.42

*Significant .05 level

Note: Lower values signify higher preference

The interactive group had a significantly higher preference for goal setting conditions, independence conditions, authority conditions, numeric content, and reading mode. When plotted on the learning style profile, this group showed a high preference for authority conditions and reading mode. None of the variables plotted in the low preference category for this group.

The other educators had a significantly higher preference for instructor conditions. When the mean scores were plotted on the learning style profile, their group showed a lower preference for goal-setting conditions. None of the variables plotted in the high preference category for this group.

The results of the discriminant analysis are shown in Table II and Table III.

Table II

Results of Discriminant Analysis of Differentiating Variables
Between Teacher Groups

Function	Percentage of Variance	Canonical Correlation	Wilks- Lamba	df	Chi Square
1	100	.75	.44	8	129.9*

*Significant at .05 level

Table III

Learning Style Variables Contributing to Significant
Discriminant Set

Learning Style Variable	Interactive Qualities		Others		Function
	X	SD	X	SD	
Numerical content	14.14	4.91	18.26	4.05	1.27
Qualitative content	14.03	4.43	14.31	4.49	1.21
Inanimate content	16.03	4.29	17.04	3.32	.97
Goal conditions	15.47	2.90	17.96	3.12	.72
Organization conditions	11.42	3.40	11.33	2.71	.56
Competition conditions	17.66	2.76	18.09	2.52	.53
Iconic mode	13.85	3.37	14.43	3.63	.26
Authority conditions	15.06	3.86	16.17	2.93	.15

Note: Lower values signify higher preference.

Function 1 with a chi-square of 129.9 and a canonical correlation of .75 was significant at the .01 level. In Function 1, six loaded to the discriminant set of variables at the .40 level or higher. These variables were numerical content, qualitative content, inanimate content, goal conditions, organization conditions, and competition conditions. Table IV shows that 88 percent of the grouped cases were correctly classified.

Table IV
Classification Results of Educator Groups

Teacher Group	Number	Predicted Group Membership	
		Stronger Interactive	Other Educators
Stronger Interactive	78	68 (87.2%)	10 (11.6%)
Other Educators	86	10 (12.8%)	76 (88.4%)

Percent of Grouped Cases Correctly Classified: 87.8%

Implications

These data show that there are relevant differences between career ladder/preservice teachers with interactive qualities and other educators. Based on the findings of this study, educational experiences can be planned with more confidence and specificity.

Group I, the interactive teachers, were judged to have strong interactive qualities by their scores on peer conditions and people interest. Cooperative or collaborative learning is a natural outgrowth for realizing their teaching potential. When interactive teachers use cooperative instructional strategies, they are fulfilling a personal need and recharging their own intrinsic

motivational core. Cooperative learning techniques which are especially appropriate for the interactive group include STAD, TGT, Jigsaw, Learning Together, Group investigations, and Think - Pair - Share. Additionally, other appropriate planning for this group includes role plays, coaching by peers, debates, outside experts, small group discussions and learning games.

Investigations of this nature continue to give educators increased confidence and awareness into their instructional preferences. With this understanding educators should develop more comprehensive educational strategies that enhance the quality of the American educational experience.

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